

## ABSTRACT

A golf ball and golf ball search receiver is described. The golf ball includes a transmitter and the search receiver includes a receiver. The golf ball may be activated by an accelerometer that causes the transmitter to produce an RF signal across a predetermined frequency band for a duration of time, which may be determined by a timer. The transmitter modulates an audio signal and transmits the modulated signal within an output band of the transmitter. The receiver tunes to a narrower band thereby receiving and demodulating a fraction of the transmitted signal. The receiver's input band halves an input bandwidth set to coincide with a fraction of the output band, thereby alleviating adverse effects due to variations in transmitter and receiver components, as well as adverse effects due to localized noise within the output band. Additionally, relative positioning of the receiver's input band may cycle across the transmitter's output band to further mitigate the adverse effects of localized noise.